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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,205	11/26/2001	Takeshi Okamura	81716.0081	9553
26021	7590	05/05/2004	EXAMINER	
HOGAN & HARTSON L.L.P. 500 S. GRAND AVENUE SUITE 1900 LOS ANGELES, CA 90071-2611			GLENN, KIMBERLY E	
			ART UNIT	PAPER NUMBER
			2817	

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/995,205

Applicant(s)

OKAMURA ET AL.

Examiner

Kimberly E Glenn

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16 and 17 is/are allowed.
- 6) ☒ Claim(s) 1,4 and 5 is/are rejected.
- 7) ☒ Claim(s) 2,3 and 6-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

The finality of the last office action has been withdrawn.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuyoshi JP 11-308014 in view of Saitoh US Patent 5,864,782 (of record).

Tsuyoshi disclose a non-radiative dielectric waveguide comprising a pair of parallel planar conductors 1 and 3 and a dielectric strip 3 place between the planar conductors. The conductors spacing is set to  $L/2$  of the signal frequency. The surface of each parallel planar conductor adjacent to the dielectric strip is planar

Thus, Tsuyoshi is shown to teach all the limitations of the claims with the exception of the dielectric strip having a .01 to .3 mm chamfer formed at an edge portion of the transmission direction of the dielectric strip.

Saitoh discloses in FIGS. 7(A) and 7(B), that all sharp corners in the dielectric or the conductor in the propagation area have been modified to have a curved shape. In FIG. 7(B), the sharp corners in the conductor and the dielectric in the propagation area have been modified to have a chamfered shape. (Column 7 lines 44-51)

One skill in the art would find it obvious to modify the dielectric strip of Tsuyoshi to have the chamfer edge as taught by Saitoh. The motivation for this modification would have been to suppress the concentration of an electric current and to reduce the transmission loss.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have the width of the chamfer be in the range of .01 to .3 mm, since it has been held that where the general conditions of the claims are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuyoshi JP11-305014 in view of Kishino et al US Patent 6,094,106 in combination with Fujimaru et al US Patent 5,246,898 (of record).

Tsuyoshi discloses a non-radiative dielectric waveguide comprising a pair of parallel planar conductors 1 and 3 and a dielectric strip 3 placed between the planar

conductors. The conductors spacing is set to  $L/2$  of the signal frequency. The surface of each parallel planar conductor adjacent to the dielectric strip is planar

Thus, Tsuyoshi is shown to teach all the limitation of the claims with the exception of the dielectric strip being made of ceramics and having an open pore ratio of 5% or less.

Kishino et al teach a non-radiative dielectric waveguide having a dielectric strip made out of ceramic.

One of ordinary skill in the art would have found it obvious to make the general dielectric strip of Tsuyoshi out of ceramic as taught by Kishino et al. The motivation for this modification would have been to provide a dielectric with high quality value.

Fujimaru et al shows a ceramic having open pore ratio being 7% or less. Fujimaru et al teach there is no need for performing sintering for long hour. As a result, reduction in the manufacturing cost can be achieved and dielectric ceramic having a higher Q can be manufactured stably. (Column 3 line 7-29)

One skilled in the art at the time of the invention would have found it obvious to have the open pore ratio of 5% or less (or 3% or less) as taught by Fujimaru et. The motivation for this modification would have been to reduce the manufacturing cost.

***Allowable Subject Matter***

Claims 2, 3, 6-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 16 and 17 are allowed.

With regards to claims 2 and 3, the prior art of record does not disclose or fairly teach the chamfer being formed as a flat surface (or as convexly curved surface) and one width of the chamfer corresponding to a surface of the dielectric strip facing the parallel planar conductor being larger than the other width of the corresponding to the side surface of the dielectric strip With regards to claims 6-17, the closest prior art of record Kii et al 6,437,663 discloses dielectric strip including a complex oxide comprising Mg, Al, and Si as the main components and having a Q value of 1000 or above at measured frequency of 60 GHz and the circuit configurations disclosed in claims 16 and 17. This prior art can not used for a rejection since is it owned by the same assignee, Kyocera Corporation.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-5 have been considered but are moot in view of the new ground(s) of rejection.

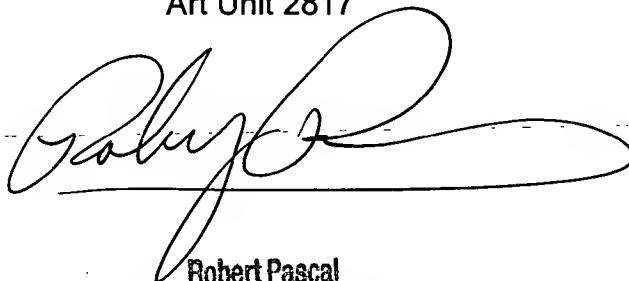
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly E Glenn whose telephone number is (571)-272-1761. The examiner can normally be reached on Monday-Friday 7:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571)-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kimberly E Glenn  
Examiner  
Art Unit 2817

keg

A handwritten signature in black ink, appearing to read 'Robert Pascal', is written over a horizontal line.

Robert Pascal  
Supervisory Patent Examiner  
Technology Center 2800